

ABSTRACT

A non-lethal ammunition utilizes dense powder ballast and a two-stage firing sequence for launching non-lethal projectiles of a caliber range from approximately 5.56 mm through approximately 40 mm. The non-lethal ammunition comprises a non-lethal cartridge. The non-lethal cartridge comprises a dense powder ballast and one or more non-lethal projectiles. The dense powder ballast is more massive than the non-lethal projectile providing sufficient payload mass to operate the weapon mechanism while launching the non-lethal projectile at velocities compatible with non-lethal applications. A two-stage ignition system fires the non-lethal ammunition and subsequently fires the more massive dense powder ballast. The firing events are separated by a time delay of less than a second. The non-lethal ammunition provides non-lethal projectile capability for semi-automatic and automatic weapons. Rifling imparts sufficient spin to the ballast material to efficiently disperse the dense powder upon muzzle exit and decelerate the ballast cup and contents to an "eye safe" non-lethal velocity at the target. The cartridge case may be smooth bore for use in rifled barrels, or may be rifled for use in smooth bore barrels.